



SAFETY DATA SHEET

1. Identification

Product identifier KLONDIKE All Season Synthetic Blend TDTO-4 Transmission / Drive Train Oil

Other means of identification

Product code All Season Syn Blend TDTO-4

Recommended use Synthetic Blend Transmission / Drive Train Oil

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name KLONDIKE Lubricants Corporation
Address 3078 275th Street
Langley, BC V4W 3L4
Canada
Telephone General Information 1-877-293-4691
Website www.klondikelubricants.com
E-mail info@klondikelubricants.com
Emergency phone number Chemtrec (Within US) 1-800-424-9300
Chemtrec (International) 1-703-527-3887

Supplier Refer to Manufacturer

2. Hazard(s) identification

Physical hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Health hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Environmental hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

OSHA defined hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements

Hazard symbol None.
Signal word None.
Hazard statement The mixture does not meet the criteria for classification.
Precautionary statement
Prevention None required according to OSHA Hazcom 2012.
Response None required according to OSHA Hazcom 2012.
Storage None required according to OSHA Hazcom 2012.
Disposal None required according to OSHA Hazcom 2012.

Hazard(s) not otherwise classified (HNOC) No OSHA defined hazard classes.
Other hazards which do not result in classification: May cause mild skin and eye irritation. May cause respiratory irritation. May cause discomfort if swallowed. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates, (petroleum), Hydrotreated Heavy Paraffinic	HEAVY BASE OILS (HEAVY PARAFFINIC HYDROTREATED DISTILLATE)	64742-54-7	60 - 100
Diisononyl Adipate	Hexanedioic acid, diisononyl ester	33703-08-1	7 - 13
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS.	68649-42-3	1 - 5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms persist.
Skin contact	Wash off with plenty of water. Duration of rinsing should be at least 15 minutes. Get medical attention if irritation develops and persists.
Eye contact	Flush with large amounts of water for 15 minutes. Get medical attention if irritation persists after washing.
Ingestion	Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if any discomfort continues.
Most important symptoms/effects, acute and delayed	May be mildly irritating to the skin and eyes. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Firefighters should wear full protective gear. Remove all sources of ignition. Use water spray to cool unopened containers. Move containers from fire area if you can do so without risk. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Carbon oxides. Hydrocarbons.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Extinguish all flames in the vicinity. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Eliminate all sources of ignition. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Do not use in areas without adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat, sparks and open flame. Store in original tightly closed container. Store in a well-ventilated place. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components

Type

Value

Form

Zinc, Dithiophosphate
Di-c1-14-alkyl Esters (CAS
68649-42-3)

TWA

None

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

If contact is likely, safety glasses with side shields are recommended. Eye wash fountain and emergency showers are recommended.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.

Other

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Amber.

Odor

Mild petroleum odor.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

> 300 °C (572 °F)

Flash point

> 200.0 °C (392 °F)

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

Not available.

Vapor density

> 10

Relative density

Not available.

Solubility(ies)

Solubility (water)

Insoluble

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	Negligible
Specific gravity	0.88

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None known, refer to hazardous combustion products in Section 5.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	May cause mild skin irritation.
Eye contact	May cause mild eye irritation.
Ingestion	May cause discomfort if swallowed.

Most important symptoms/effects, acute and delayed May be mildly irritating to the skin and eyes. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Acute toxicity This product is not classified as an acute toxicity hazard. The below product data is the calculated ATE values for this mixture. Individual ingredient component data appears below the product mixture ATE values.

Product	Species	Test Results
KLONDIKE All Season Synthetic Blend TDTO-4 Transmission / Drive Train Oil (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i>		
LC50	Rat	5.63 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	13425 mg/kg
Components		
Diisononyl Adipate (CAS 33703-08-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	No data in literature
<i>Inhalation</i>		
LC50	Rat	> 5.7 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours (Mist)
<i>Oral</i>		
LD50	Rat	> 15000 mg/kg
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)		
Acute		
<i>Dermal</i>		
LC50	Rabbit	No data in literature
<i>Inhalation</i>		
LC50	Rat	No data in literature
<i>Oral</i>		
LD50	Rat	26100 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	May cause mild skin irritation.
Serious eye damage/eye irritation	May cause mild eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	This product is not expected to cause respiratory sensitization.
Skin sensitizer	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	No components present at greater than 0.1% are considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified as a specific target organ toxicity -single exposure.
Specific target organ toxicity - repeated exposure	Not classified as a specific target organ toxicity -repeated exposure.
Aspiration toxicity	Not expected to be an aspiration hazard.
Chronic effects	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity Components of this product are hazardous to aquatic life.

Components	Species	Test Results
Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
<i>Chronic</i>		
Crustacea	NOEC	Water flea (Daphnia magna) 10 mg/l, 21 days

Components	Species	Test Results
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Green algae (Selenastrum capricornutum) 1 - 5 mg/l, 96 hours
Crustacea	EC50	Water flea (Daphnia magna) 1 - 1.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 1 - 5 mg/l, 96 hours
<i>Chronic</i>		
Algae	NOEC	Green algae (Selenastrum capricornutum) 1 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	68649-42-3	1 - 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 11-10-2014

Version # 01

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Bibliography

Not available.